



Some advises for insulating a new cotton testing laboratory

Quelques conseils techniques pour l'isolation d'un nouveau laboratoire d'analyse du coton

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Arusha, January 2012



This project is co-funded by
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Plan of presentation

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- Introduction
 - Building
 - Heat and vapor transferts
 - Avoid heat and vapor transfers
 - Example of insulation
 - Conclusion
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 - Bâtiment
 - Transferts de chaleur et d'eau
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Introduction



- Testing cotton fibres requires specific conditions
 - Hygroscopicity of fibres
 - Some conditions of proper realization of the measurements
- Tester des fibres de coton requière des conditions spécifiques
 - Hygroscopicité des fibres
 - Quelques conditions de bonnes réalisation des mesures



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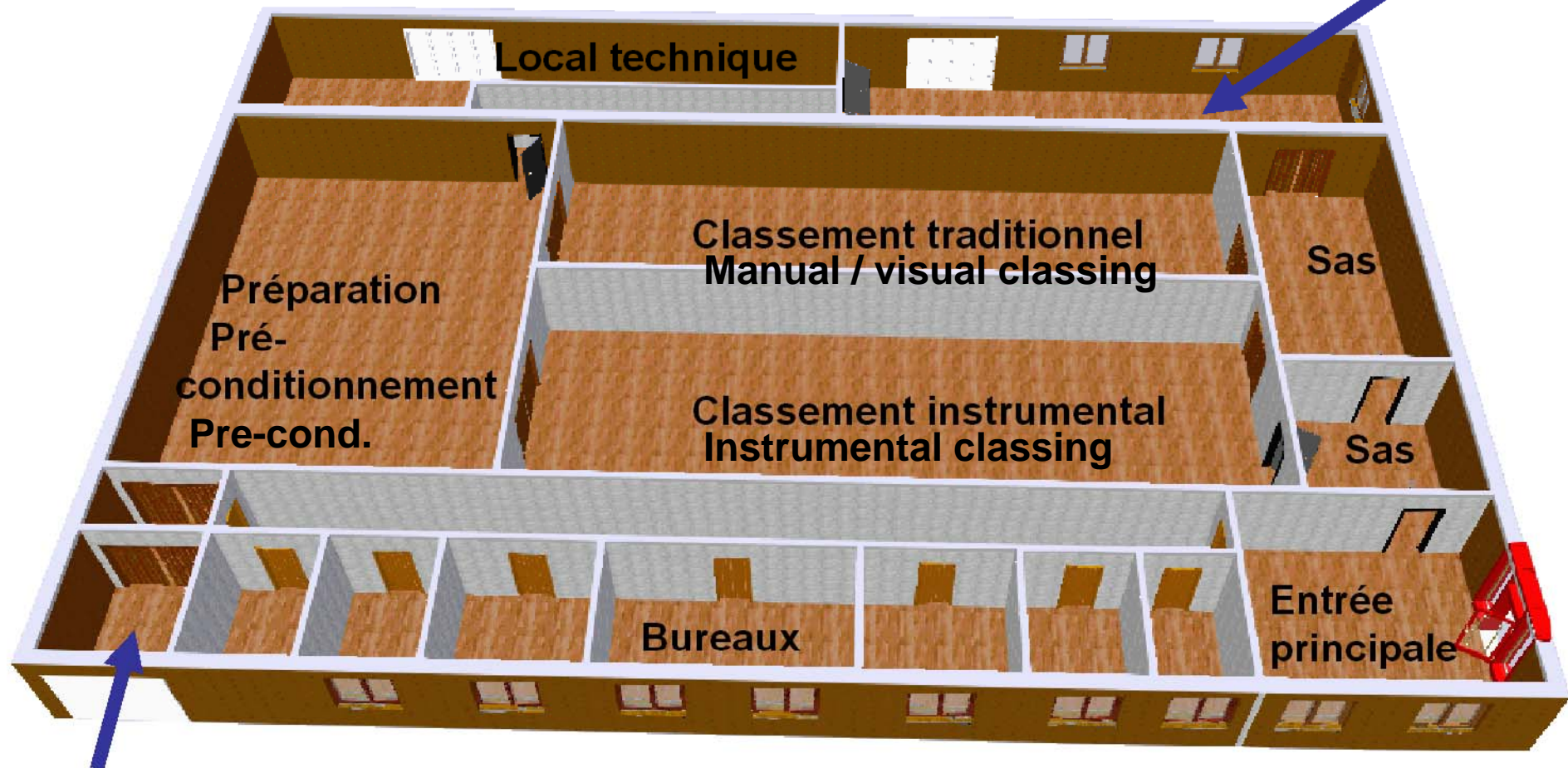


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Position of the laboratory Position du laboratoire

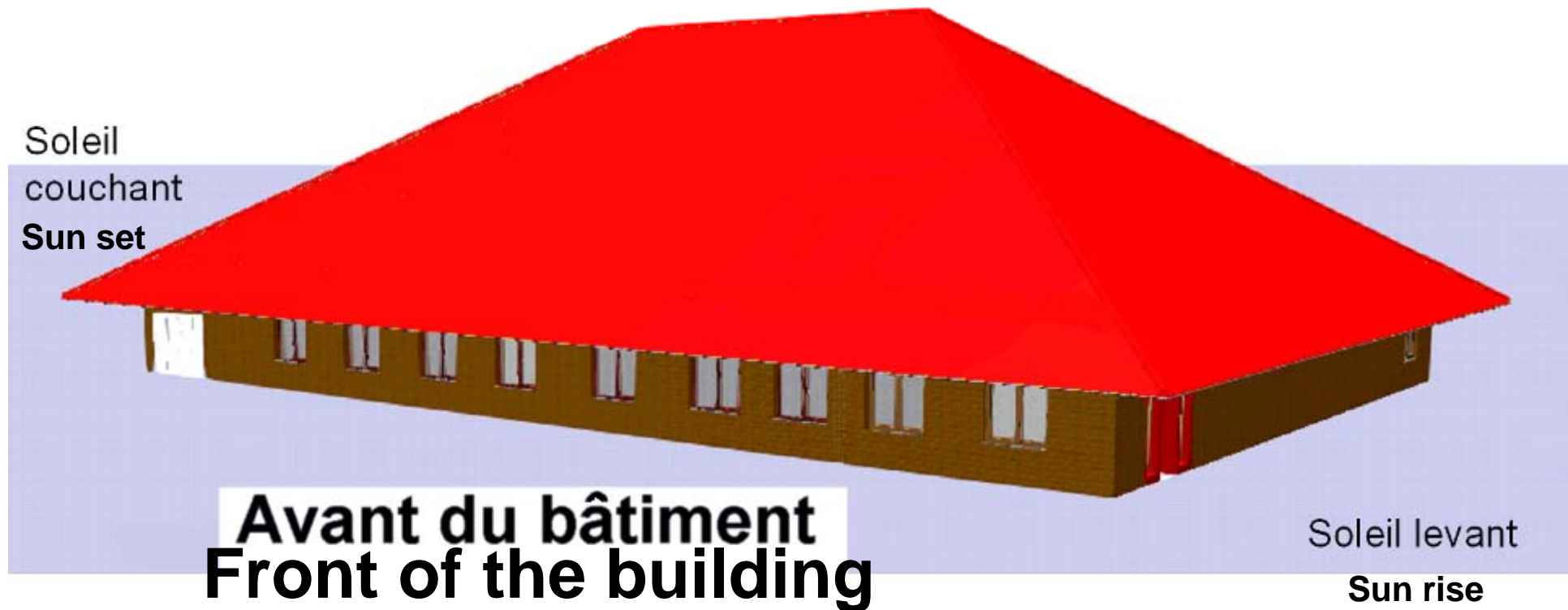
Samples outlet
Evacuation des échantillons



Quai d'arrivée
des échantillons
Samples inlet

Avant du bâtiment
Front of the building

External shape of the building Forme extérieure du bâtiment



Le toit déborde des murs pour les isoler d'une insulation directe
The roof is larger than the building to avoid its direct insulation



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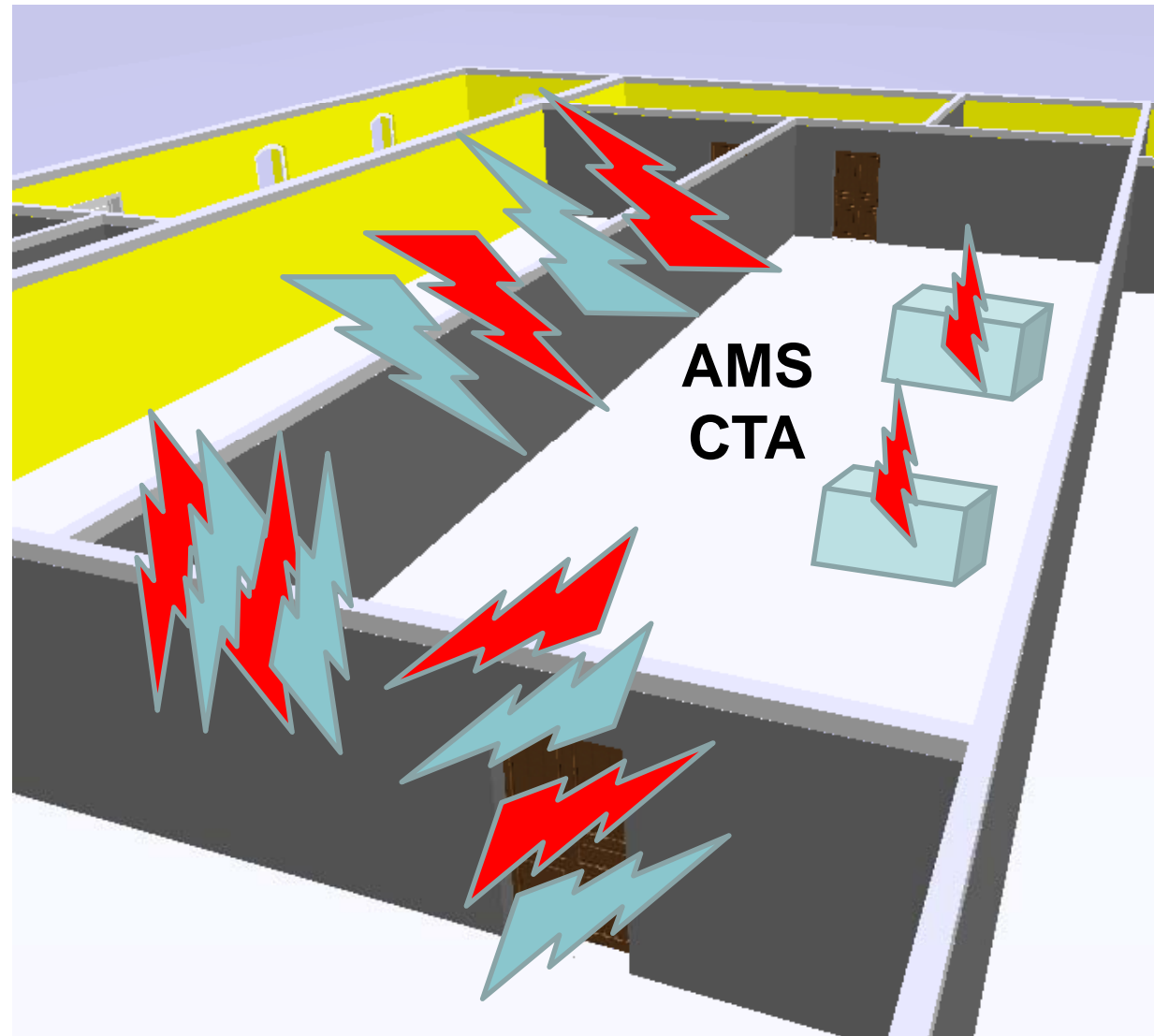
Heat and vapor transfers Transferts de chaleur et d'eau



Water transfert
Transfert d'eau



Heat transfert
Transfert de chaleur



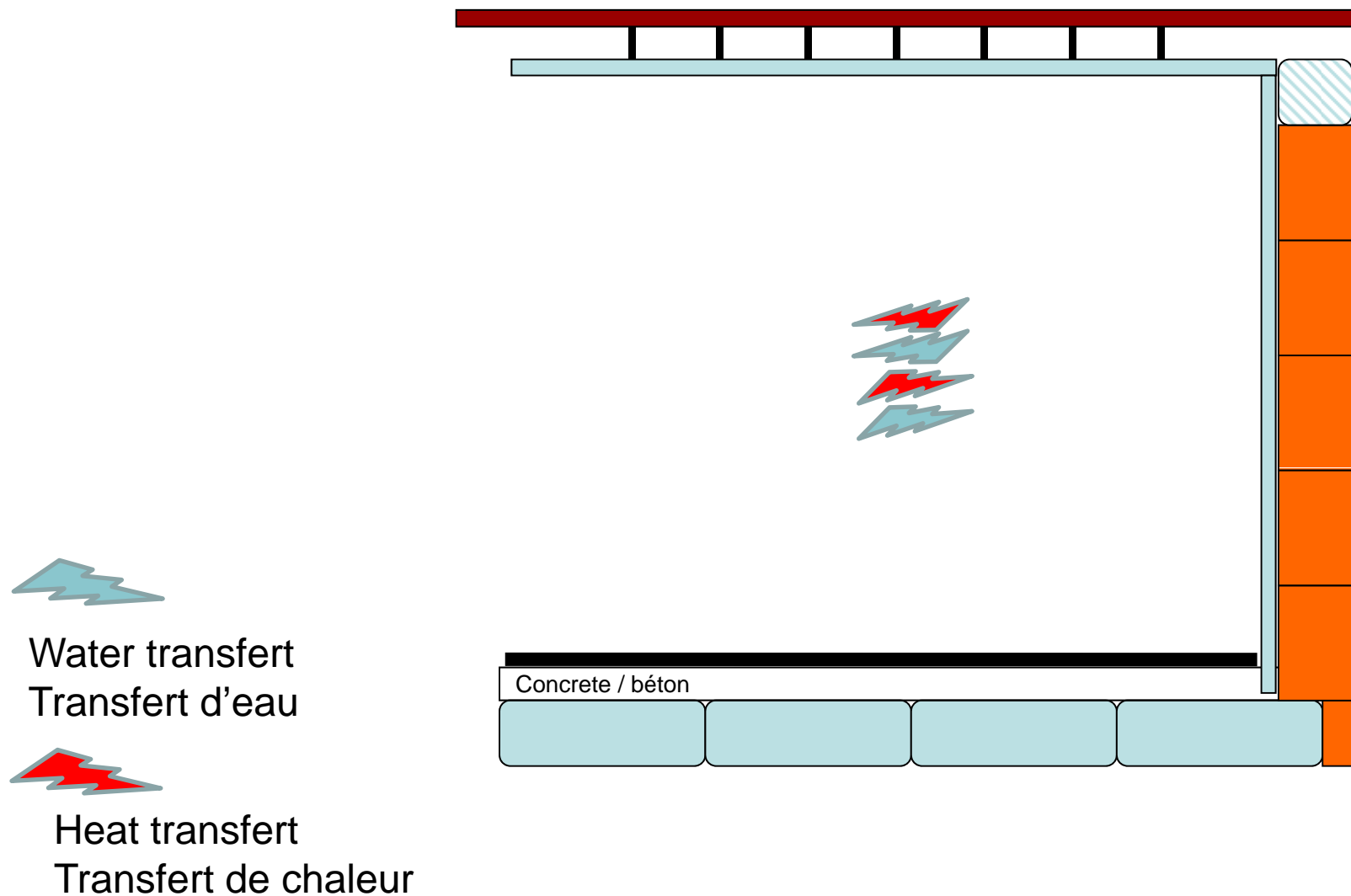
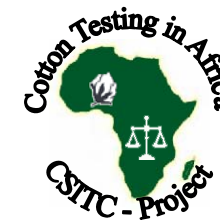
AMS: Air Management System
CTA : Centrale de Traitement d'Air



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Heat and vapor transfers Transferts de chaleur et d'eau



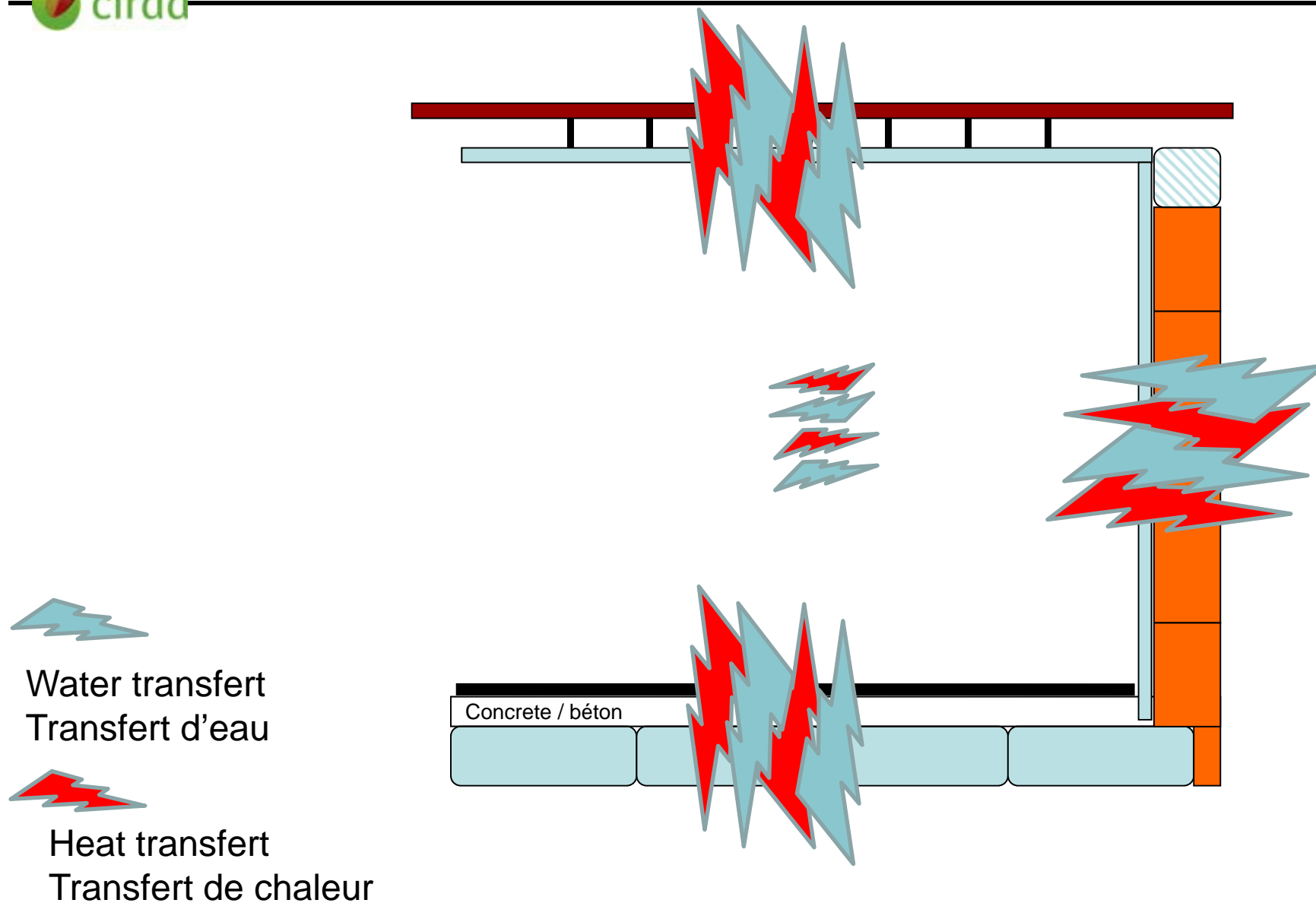


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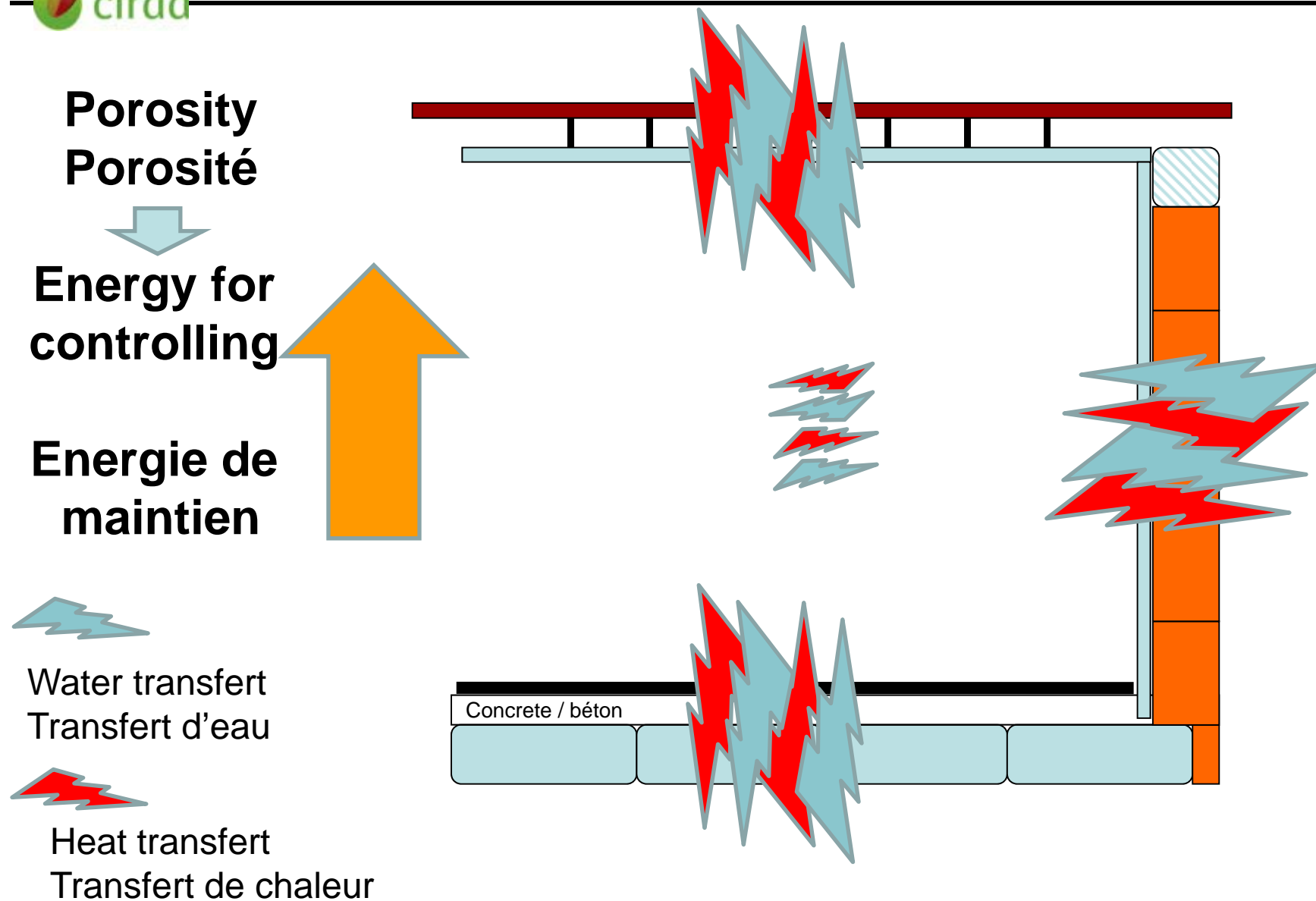
Heat and vapor transfers

Transferts de chaleur et d'eau



Heat and vapor transfers

Transferts de chaleur et d'eau



Heat and vapor transfers Transferts de chaleur et d'eau

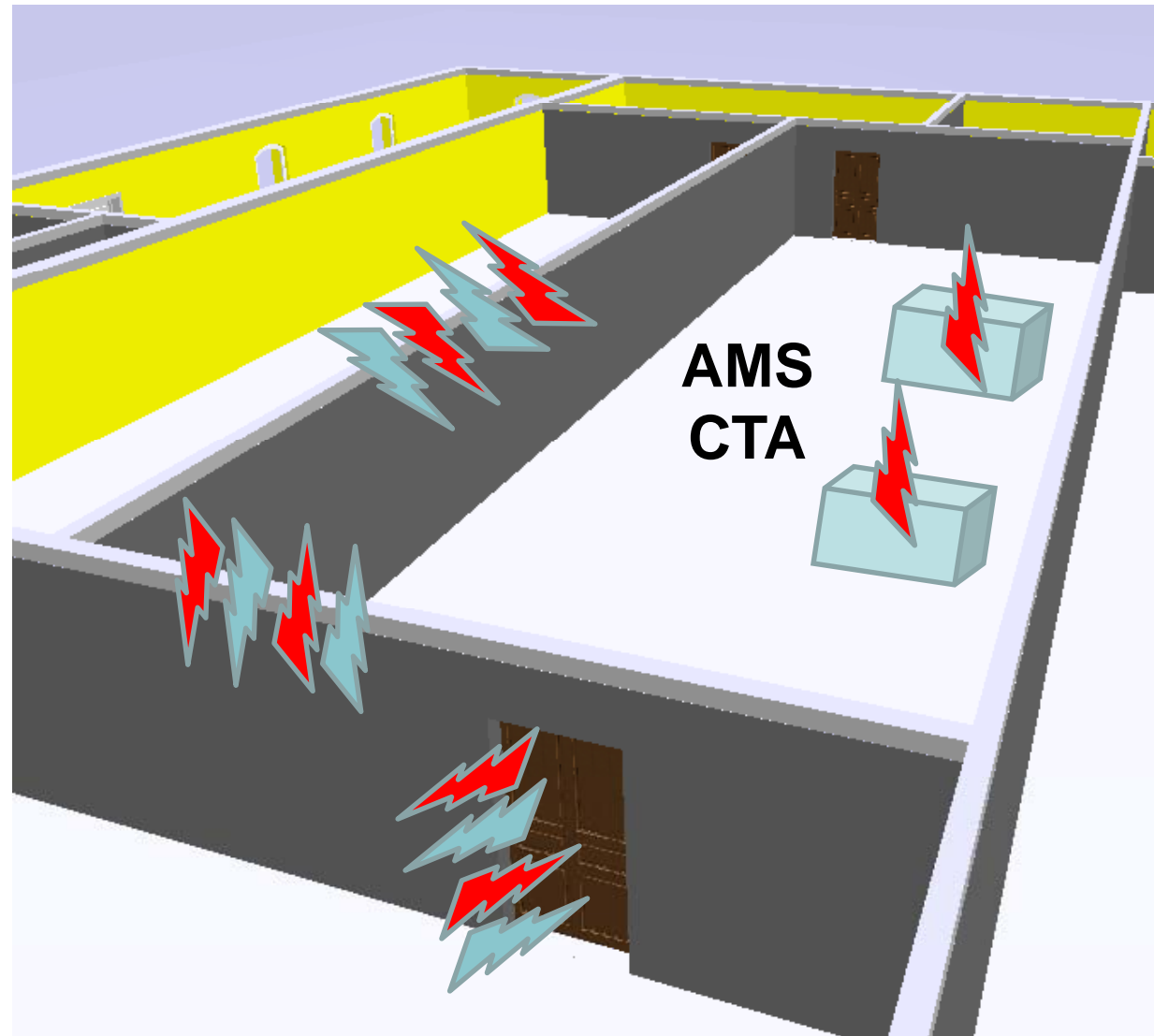
**Minimize !!!
Minimiser !!!**



Water transfert
Transfert d'eau



Heat transfert
Transfert de chaleur



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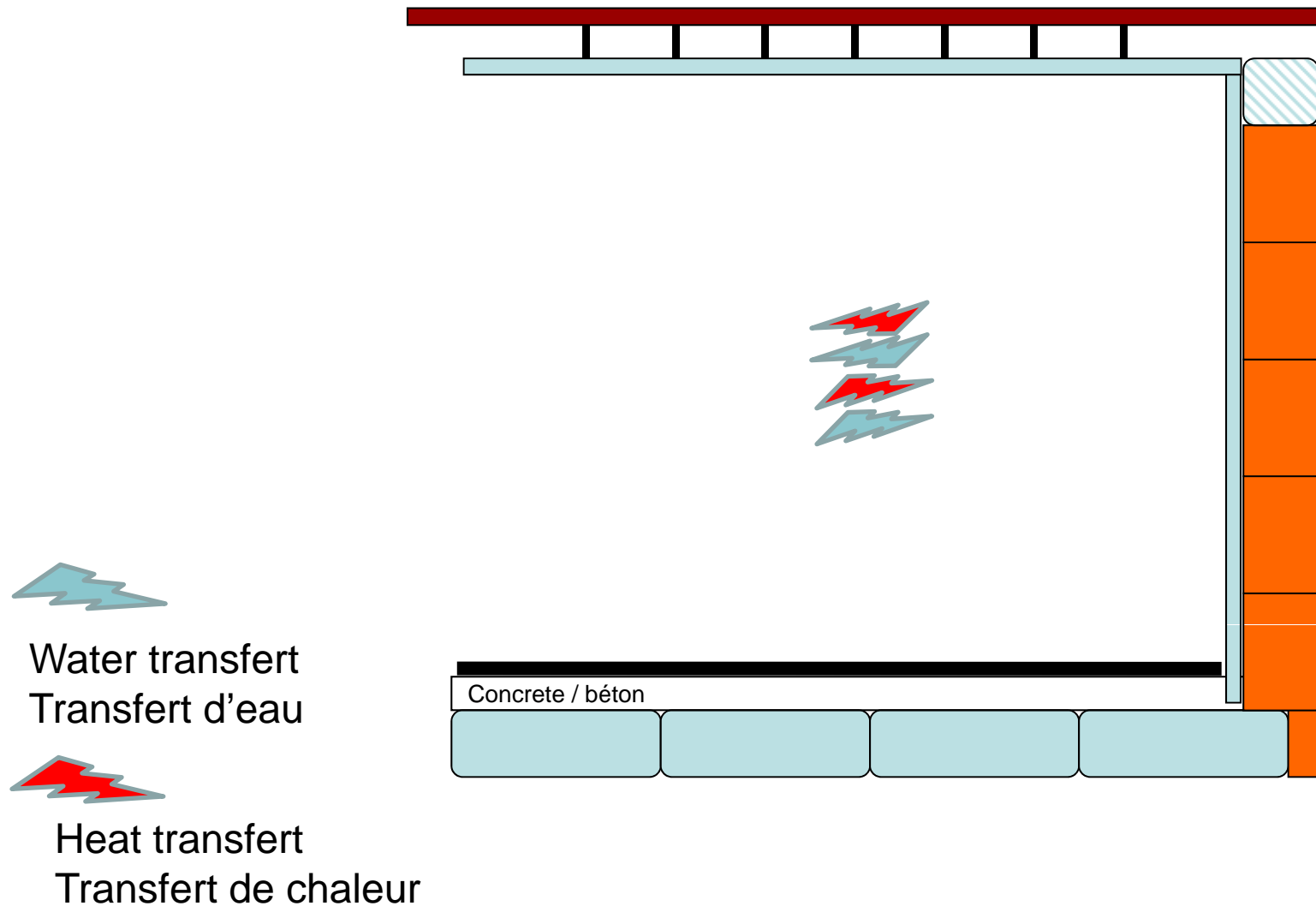


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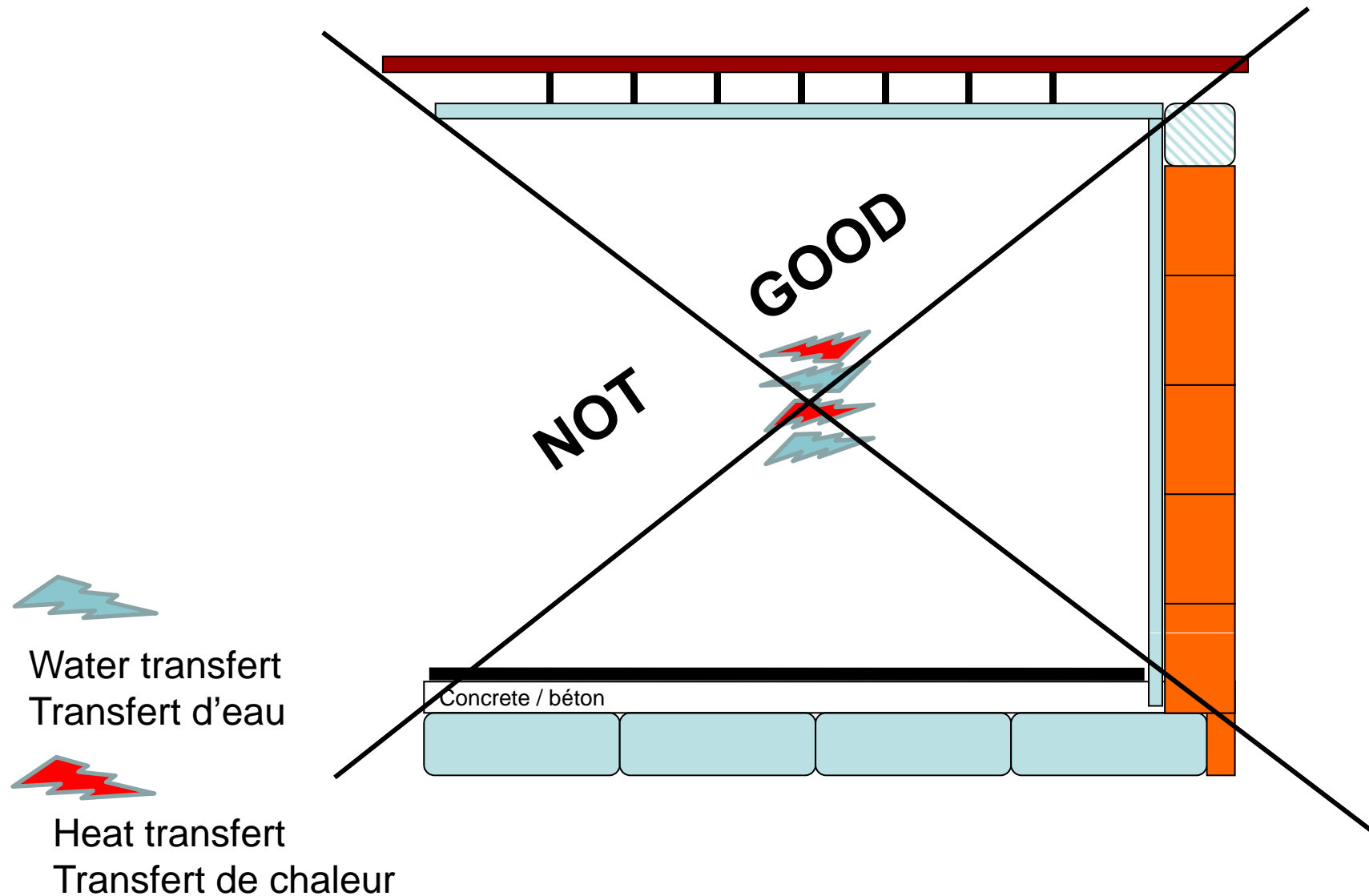
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Heat and vapor transfers

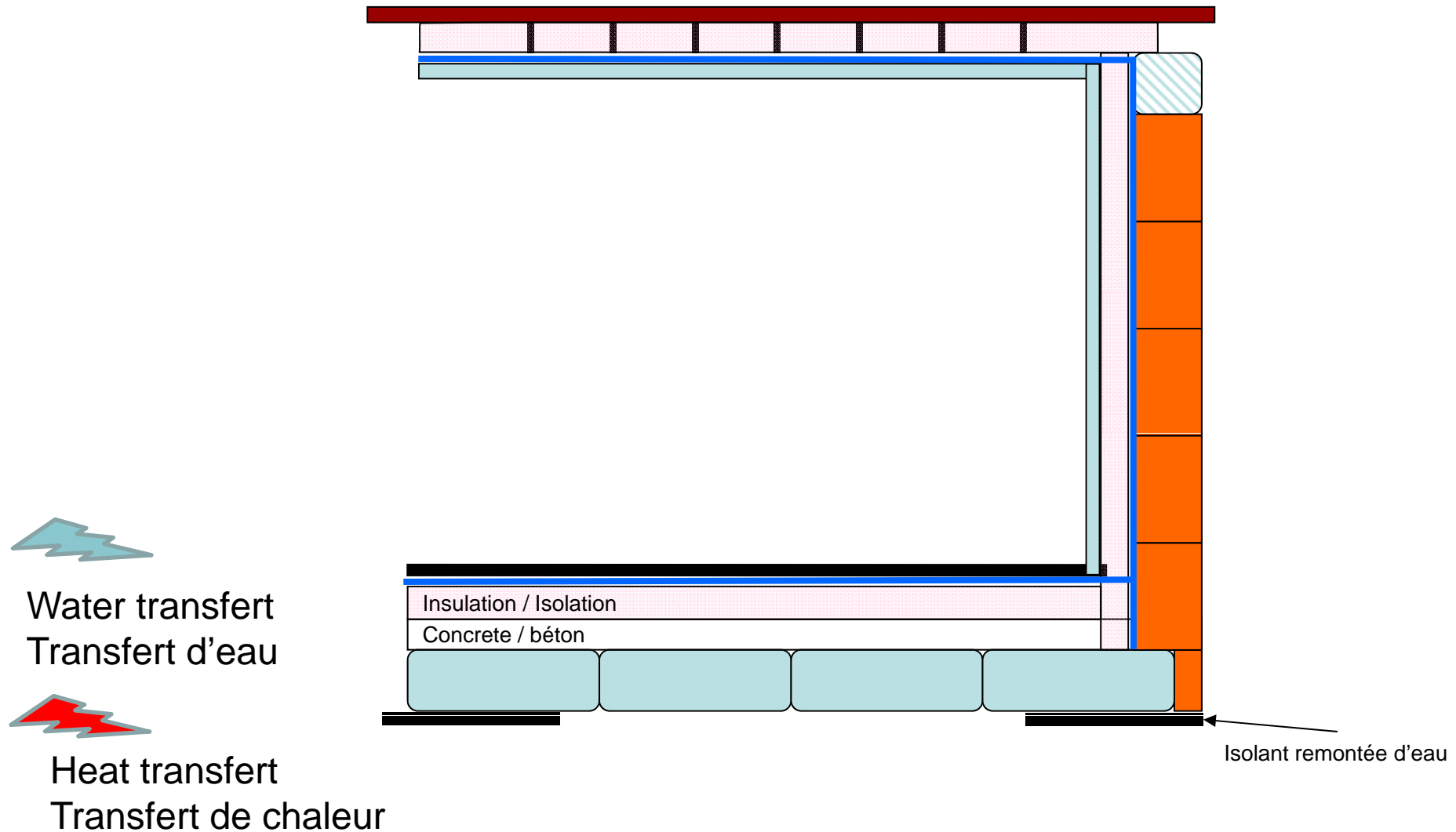
Transferts de chaleur et d'eau



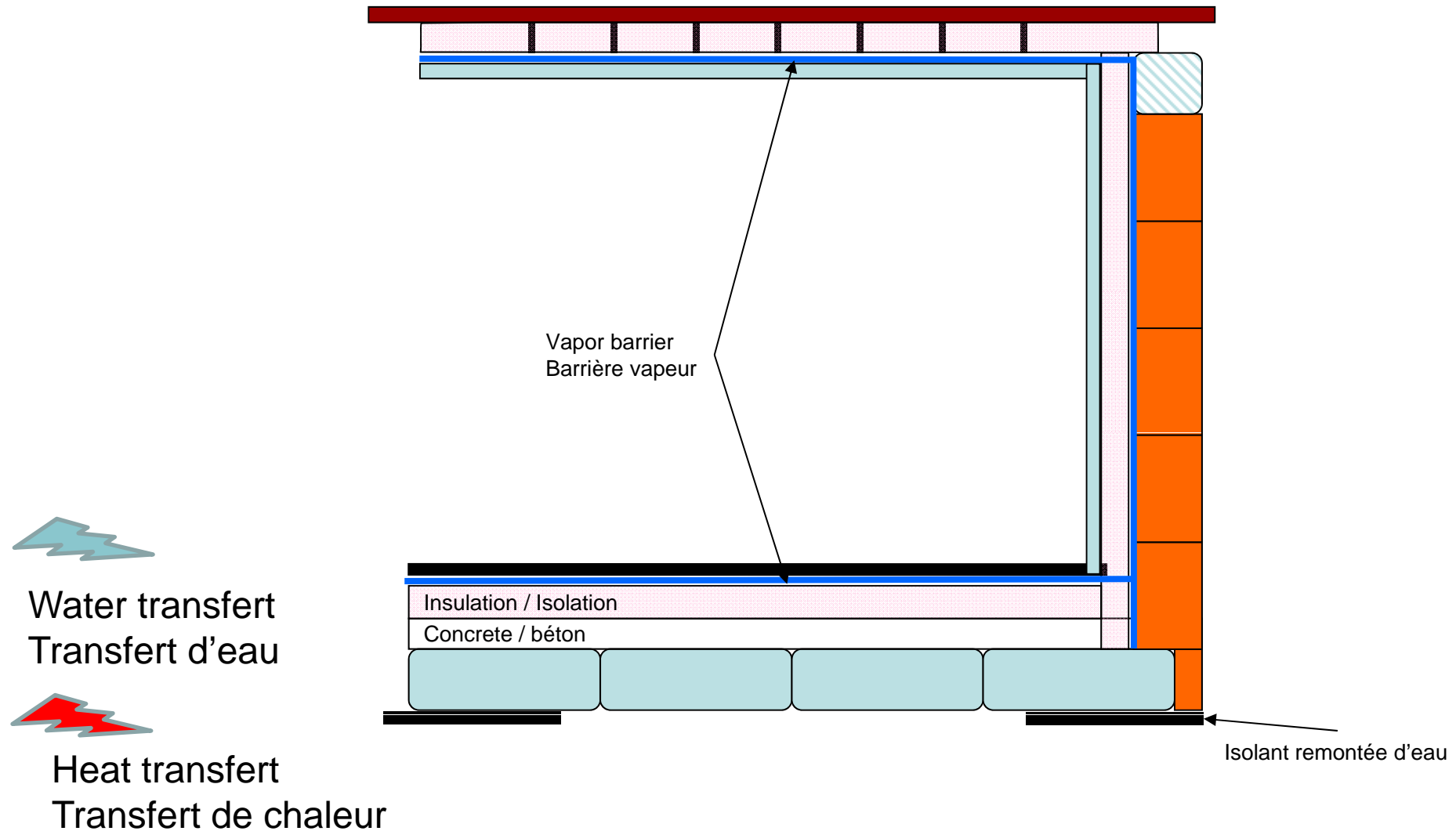
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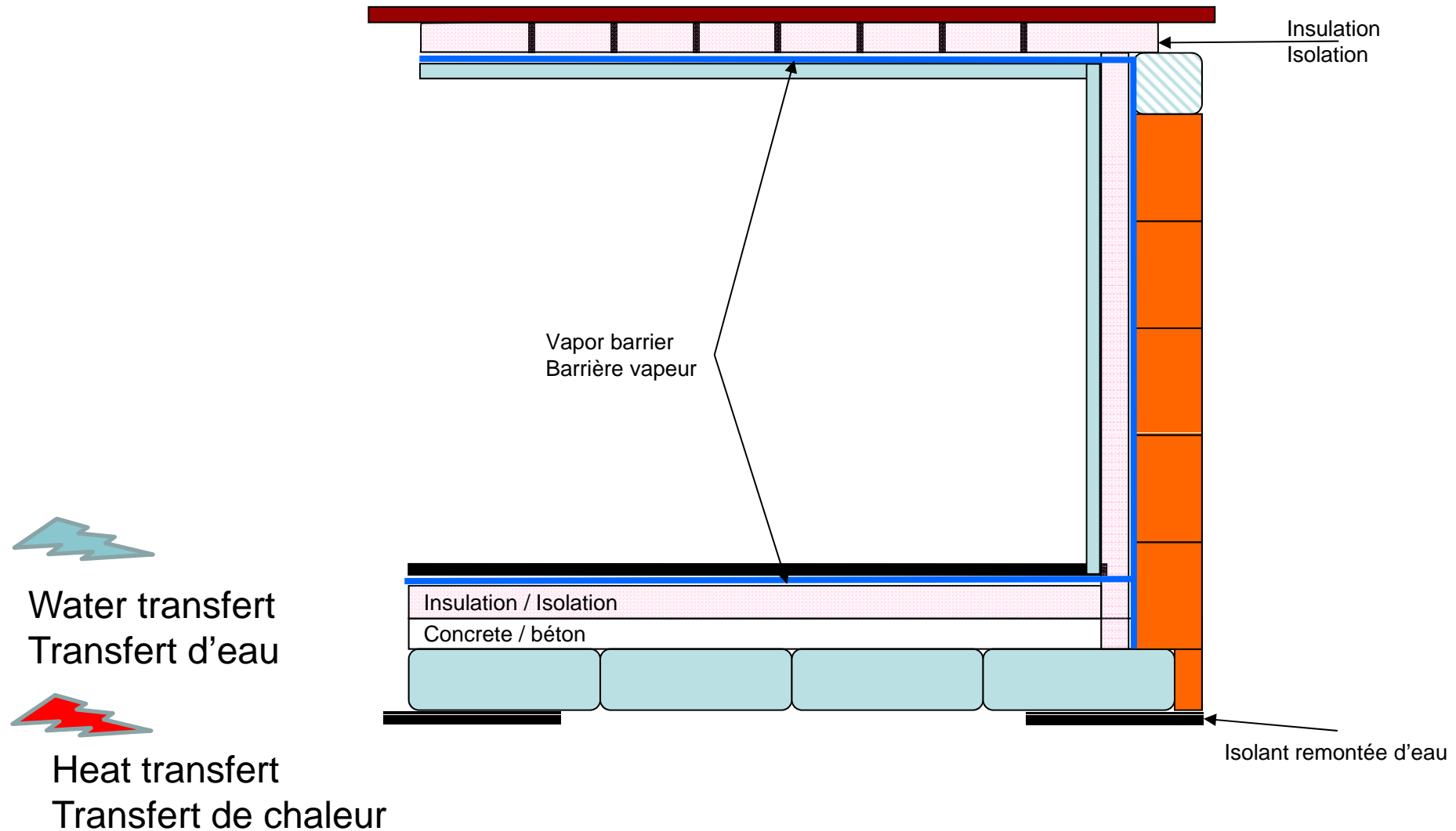
Avoid heat and vapor transfers Eviter les transferts de chaleur et d'eau



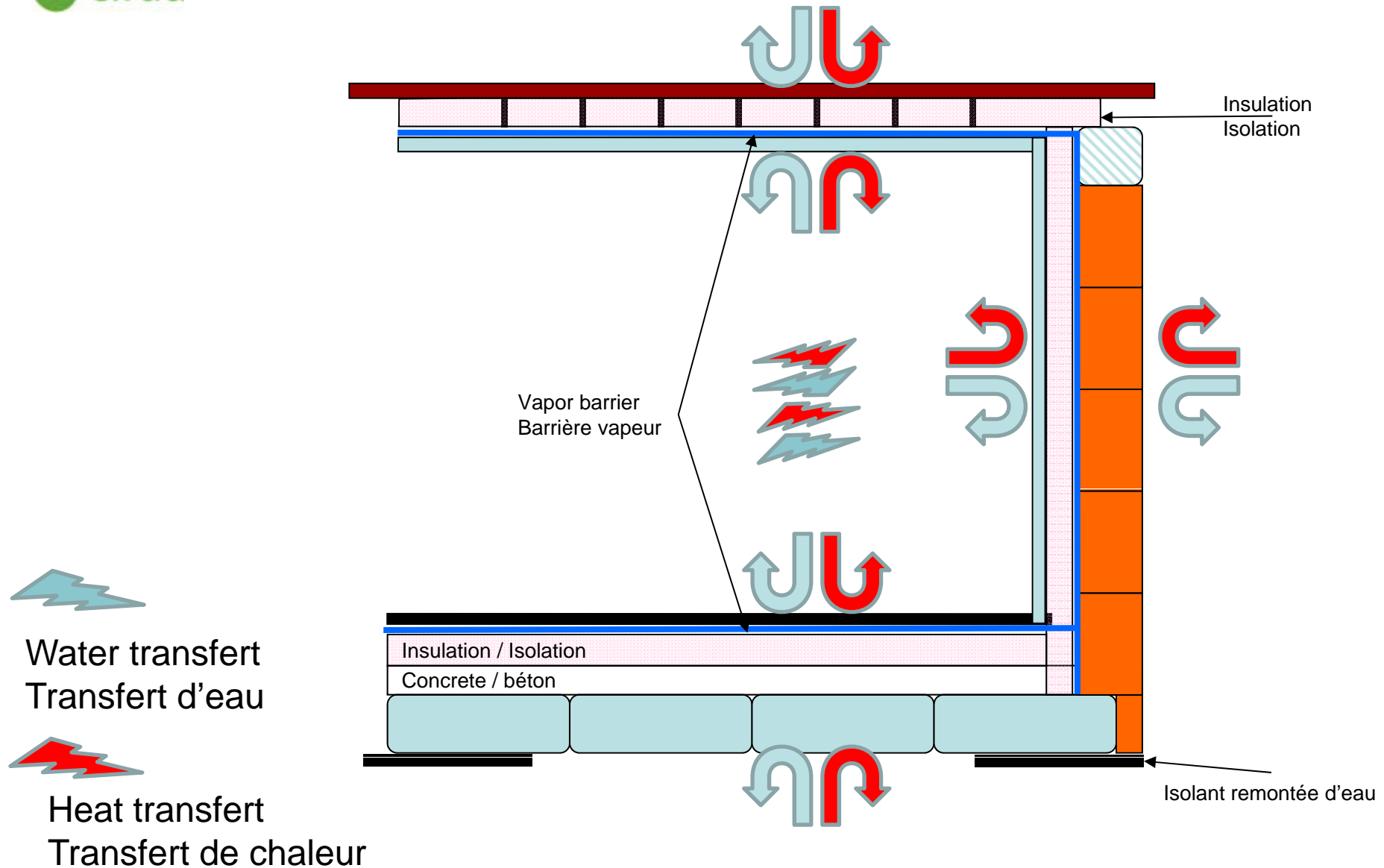
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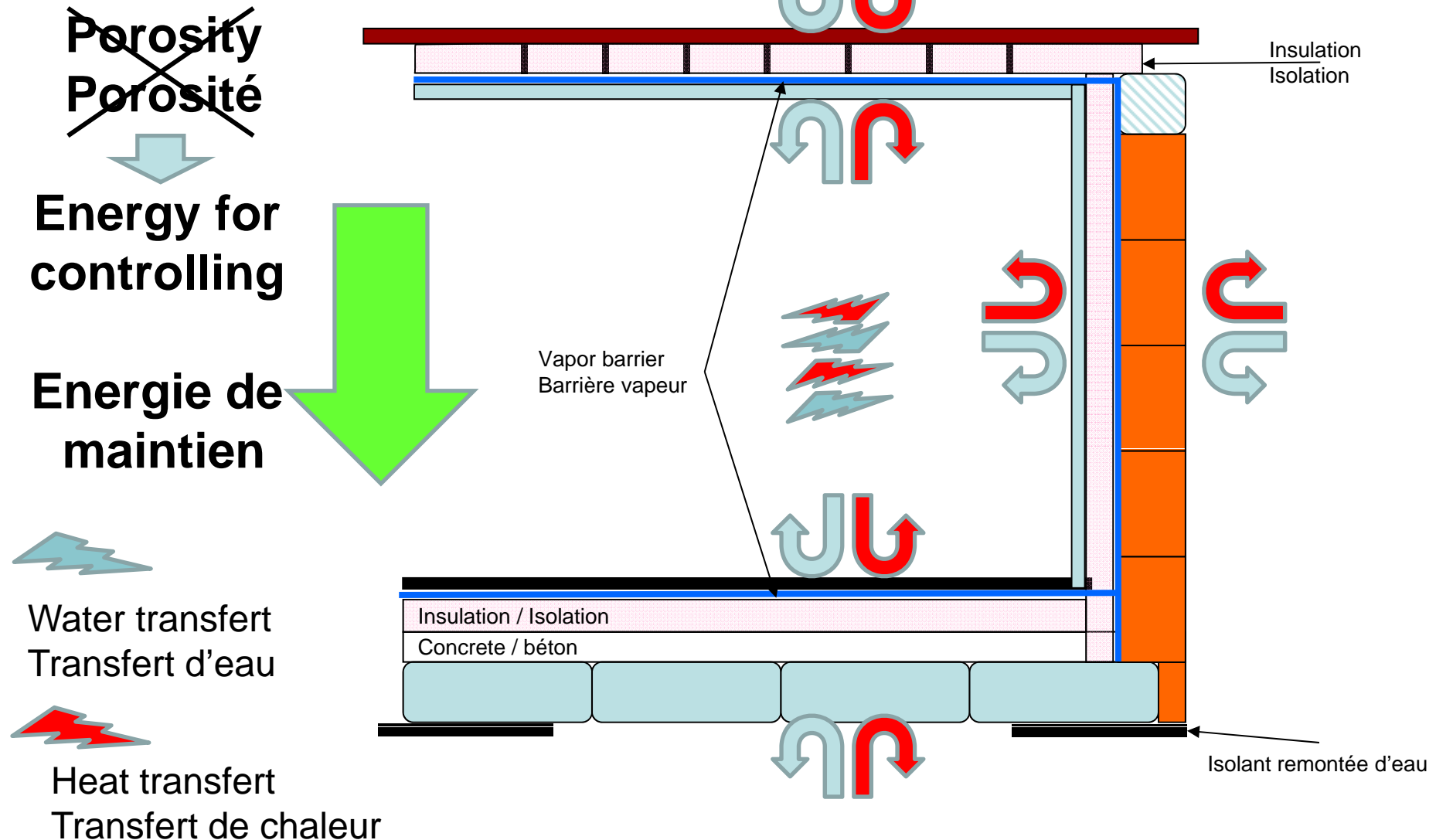
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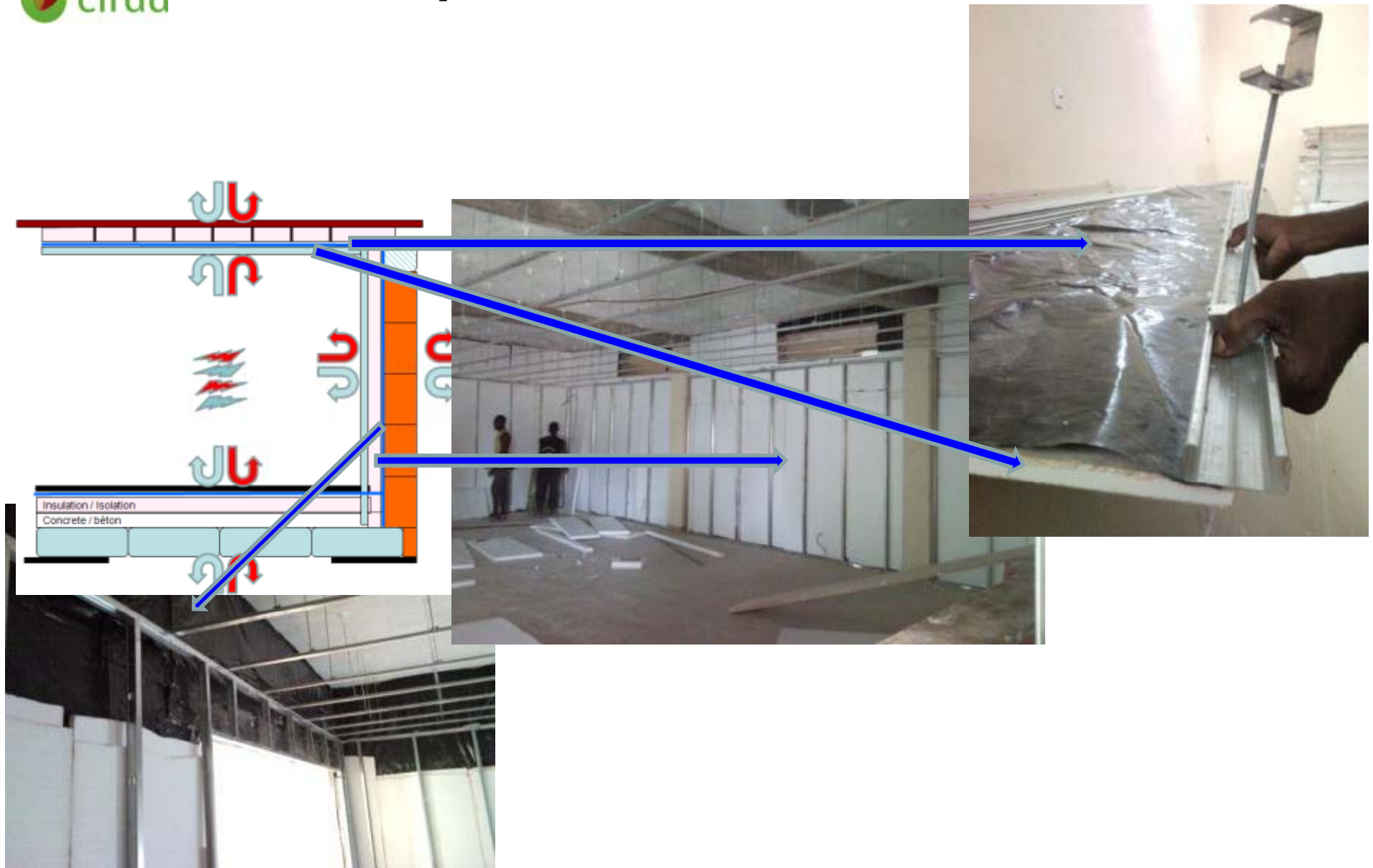
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Example of insulation Exemple d'isolation

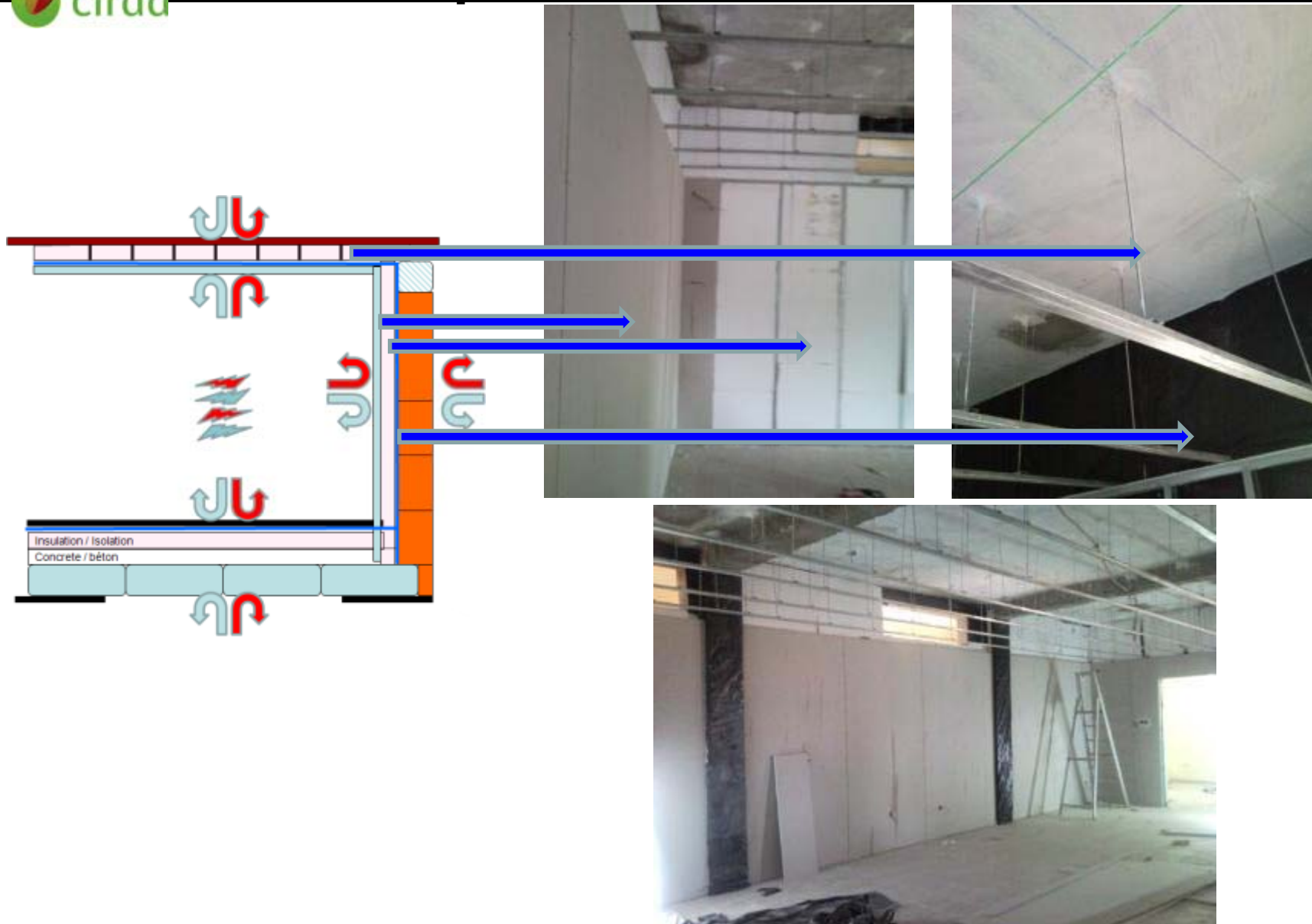




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Example of insulation Exemple d'isolation

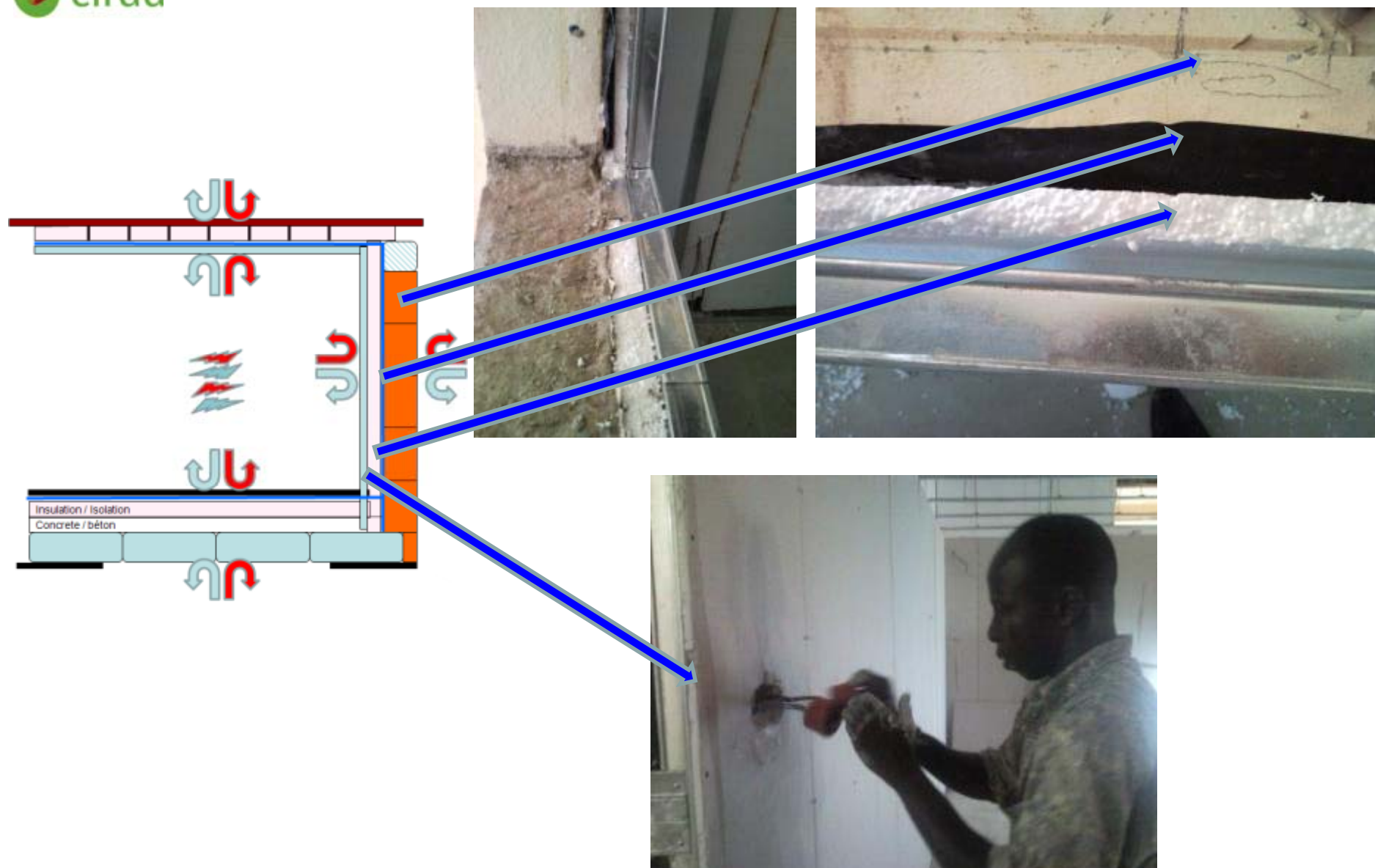




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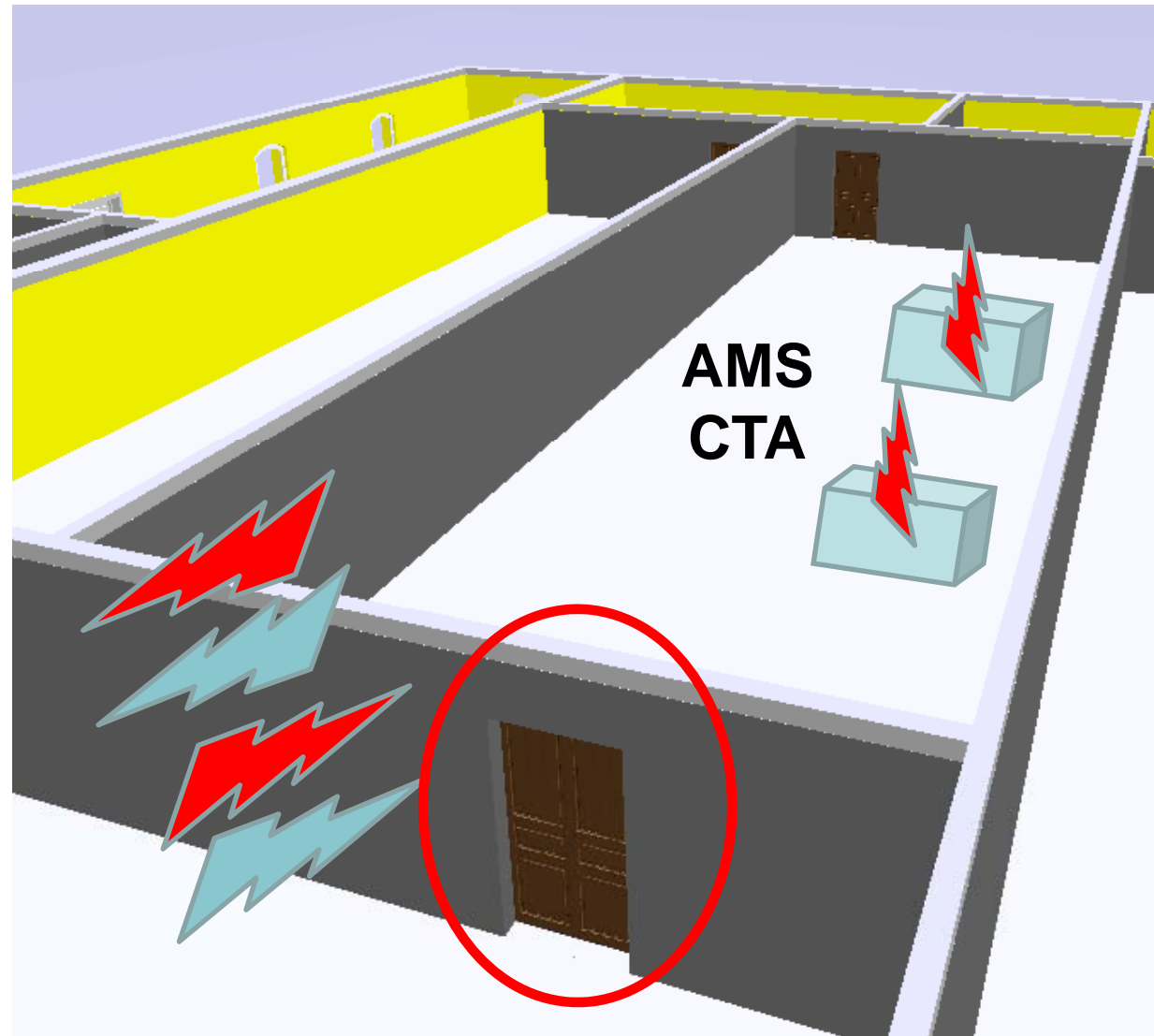
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Conclusion Conclusion

Insulate the laboratory

- Decreases AMS investment costs
- Decreases running costs
- Ease the regulation of the ambient conditions
- Ensure better testing conditions
- Results more stable

Isoler le laboratoire

- Diminue les coûts d'investissements pour CTA
- Diminue les coûts de fonctionnement
- Facilite la régulation des conditions d'ambiance
- Meilleures conditions de tests
- Résultats plus stables



All details in:
Tous les détails dans :

Executive summaries (under preparation),
Project CFC/ICAC/33

Thanks for your attention

